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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,326

10/31/2005

Herbert Wolter

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FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

HEINCER, LIAM J

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/527,326		WOLTER ET AL.	
	Examiner		Art Unit	
	Liam J. Heincer		1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 19-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION
Election/Restrictions

Applicant's election with traverse of Group I in the reply filed on October 18, 2007 is acknowledged. The traversal is on the ground(s) that the amendment to instant claim one renders the previously compound outside the scope of the claim. This is not found persuasive because although the applicant is correct in that the previously cited, the amended compound of claim 1 is still shown in a prior art. US Patent 6,242,433 to Balsamo et al. teaches a compound of formula I (compound 6) where X is NH, R¹-R⁶ are each hydrogen and B contains more than one C=C moiety.

The requirement is still deemed proper and is therefore made FINAL.

Claim 19-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 18, 2007.

Specification

The abstract of the disclosure is objected to because there is a typo such that it reads "wich modulates" rather than "which modulates". Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 3 is objected to because of the following informalities: there is typo such that claim ends with ")." rather than a period. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Considering Claim 3: Claim 3 claims that the substituents are simultaneously open chain and cyclic. These two groups are mutually exclusive, therefore the claim is indefinite as to the nature of the substituents. For the purpose of further examination, the claim will be interpreted as referring to the classes of substituents in the alternative.

Considering Claim 11: A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 11 recites the broad recitation "at least one", and the claim also recites "preferably at least two" which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Balsamo et al. (US Pat. 6,242,433).

Considering Claims 1, 5, and 6: Balsamo et al. teaches a compound of formula I (compound 6) where X is NH, R¹-R⁶ are each hydrogen and B contains more than one C=C moiety.

Considering Claims 7 and 8: Balsamo et al. teaches m as being 0 and n as being 1 (compound 6).

Considering Claim 9: Balsamo et al. teaches B as having between 2 and 50 carbon atoms (compound 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billington et al. (US Pat. 4,514,342) in view of Okada et al. (WO00/58316) taken with Erdmann et al. (WO02/02057).

Note: US Pat. 6,458,868 is being used as an English language equivalent of WO00/58316 and US Pat. 6,902,608 is being used as an English language equivalent of WO02/02057. All references will be directed towards these documents.

Considering Claims 1 and 6: Billington et al. teaches phosphate with more than one organically polymerizable group where X is an oxygen atom (2:53-55, Formula I).

Billington et al. does not teach a spacer between the polymerizable groups and the phosphate. However, Okada et al. teaches a spacer where $m=1$, and there is a C(O) group before X, between a phosphate and a methacrylate group (Table 9, compound 5a).

Billington et al. and Okada et al. are combinable as they are concerned with the same field of endeavor, namely dental adhesives comprising phosphorous. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the spacer of Okada et al. in the compound of Billington et al., and the motivation to do so would have been, as Erdmann et al. suggests, compounds with alkyl chains between the phosphonic acid and double bond have a high resistance to hydrolysis (1:15-19).

Considering Claim 3: Billington et al. does not teach R^1-R^6 as being alkyl or aryl chains. However, Okada et al. teaches the use of hydrocarbon substituent chains of 1 to 12 carbons in an phosphate compound (5:45-50, 13:25 and 15:30). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the hydrocarbon substituents of Okada et al. in the compound of Billington et al., and the motivation to do so would have been, as Okada et al. suggests, the hydrophobic groups gives greater adhesion and durability (5:45-50).

Considering Claim 4: Since R^1-R^6 are optionally substituted, the claimed substituents are not required in the instant claim.

Considering Claim 5: Billington et al. teaches R^1 and R^2 as being hydrogen (Formula I).

Considering Claims 7 and 8: Billington et al. teaches n as being 1 (Formula I).

Considering Claim 9: Billington et al. teaches B as having between 2 and 50 carbon atoms (formula I).

Considering Claims 10-12: Billington et al. teaches at least two methacrylate groups (Formula I).

Considering Claim 13: Billington et al. teaches component B as being an esterified oligoalcohol (1:50-2:2).

Art Unit: 1796

Considering Claim 14: Billington et al. teaches the oligoalcohol as comprising three to fifteen carbon atoms (1:50-2:2).

Considering Claim 15: Billington et al. teaches the oligoalcohol as being a di- (1:50-2:2) or pentaalcohol (3:37-42).

Considering Claim 16: Billington et al. teaches the oligoalcohol as being pentaerythritol (3:37-42).

Considering Claim 17: Billington et al. teaches the X as being oxygen (Formula I).

Considering Claim 18: Billington et al. does not teach additional groups as part of B (3:37-42).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Billington et al. (US Pat. 4,514,342) in view of Okada et al. (WO00/58316) taken with Erdmann et al. (WO02/02057).

Note: US Pat. 6,458,868 is being used as an English language equivalent of WO00/58316 and US Pat. 6,902,608 is being used as an English language equivalent of WO02/02057. All references will be directed towards these documents.

Considering Claim 2: Billington et al. teaches phosphate with more than one organically polymerizable group where X is an oxygen atom (2:53-55, Formula I).

Billington et al. does not teach a spacer between the polymerizable groups and the phosphate. However, Okada et al. teaches a spacer where $m=1$, and there is a C(O) group before X, between a phosphate and a methacrylate group (Table 9, compound 5a).

Billington et al. and Okada et al. are combinable as they are concerned with the same field of endeavor, namely dental adhesives comprising phosphorous. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the spacer of Okada et al. in the compound of Billington et al., and the motivation to do so would have been, as Erdmann et al. suggests, compounds with alkyl chains between the phosphonic acid and double bond have a high resistance to hydrolysis (1:15-19).

Art Unit: 1796

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH

October 22, 2007



MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

13/Nov/07